

Remarks

Claims 12-33 were previously pending in the subject application. By this Amendment, claims 22 and 29-33 have been amended, and claims 26-28 have been canceled. No new matter has been introduced. Support for the amendments can be found throughout the original specification (see, for example; page 1, line 31, through page 2, line 2; page 2, lines 9-22; and original claims 1, 12, and 22). Claims 12-21 remain pending but withdrawn from consideration. Accordingly, claims 22-25 and 29-33 are before the Examiner for further consideration.

The amendments set forth herein should not be interpreted to indicate that the applicants have agreed with, or acquiesced to, the rejections set forth in the outstanding Office Action. The amendments to the claims have been made in an effort to lend greater clarity to the claimed subject matter and to expedite prosecution. Favorable consideration of the claims now presented, in view of the remarks and amendments set forth herein, is earnestly solicited.

Initially, the specification has been objected to for informalities. The applicants thank the Examiner for carefully reviewing the specification. The specification has been amended on page 14 as suggested by the Examiner and at page 2 to include the embodiment recited in original claim 1. Accordingly, the applicants respectfully request reconsideration and withdrawal of the objection to the specification.

Claims 26 and 29-33 have been objected to for informalities. The applicants thank the Examiner for carefully reviewing the claims. Claims 29-33 have been amended to clarify that the salt is the copper salt of claim 22 and the formulation is the ink formulation of claim 22. Accordingly, the applicants respectfully request reconsideration and withdrawal of this objection.

Claims 22-33 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Action states that there is no support in the specification for a recitation that “the marking component in the absence of the metal salt undergoes a colour change in response to laser irradiation at a wavelength above 2000 nm but not between 700-2000 nm.” The applicants note that this recitation was included in original claims 12 and 22, which were included in the Preliminary Amendment filed the same day as the application, June 23, 2006 (see MPEP §602(V) – “For applications filed on or after September 21, 2004, a preliminary

amendment that is present on the filing date of the application is part of the original disclosure of the application” and MPEP §2163.06(III) – “The claims as filed in the original specification are part of the disclosure”).

Nevertheless, though the applicants do not agree with this rejection, claim 22 has been amended to remove the recitation that “the marking component in the absence of the metal salt undergoes a colour change in response to laser irradiation at a wavelength above 2000 nm but not between 700-2000 nm.” The applicants submit that the claims are fully supported by the original specification. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph.

Claims 22-33 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Action states that it is unclear if certain passages of claim 22, as previously presented, are method steps or functional limitations. Claim 22 has been amended to recite that the marking component can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm and that the method comprises the step of irradiating the ink formulation with a laser at 700-2000 nm, thereby causing the marking component to change color. The applicants submit that the claims particularly point out and distinctly claim the subject matter regarded as the invention. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

Claims 22-25 and 31-33 have been rejected under 35 U.S.C. §102(b) as being anticipated by Khan (WO 02/074548). The applicant respectfully requests reconsideration.

Claim 22 has been amended to recite that the ink formulation includes a copper salt that absorbs laser irradiation at 700-2000 nm and a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm. On the other hand, Khan fails to disclose applying an ink formulation to a substrate, wherein the ink formulation includes a copper salt.

As the Examiner is aware, it is a basic premise of patent law that in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). As discussed above, Khan fails to disclose an ink

formulation including a copper salt. The applicants note that claim 26 as previously presented recited that the ink formulation includes a copper salt, and that claim was not included in this rejection.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §102 based on Khan.

Claims 22, 26, and 31-33 have been rejected under 35 U.S.C. §102(b) as being anticipated by Satake *et al.* (JP 2530233; hereinafter referred to as “Satake I”). The applicants respectfully traverse this ground for rejection because the cited reference does not teach each and every element of the claimed invention.

The claimed method requires the step of applying onto a substrate an ink formulation that includes a copper salt that absorbs laser irradiation at 700-2000 nm and a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm. The Action states that Satake I discloses such a formulation based on the assertion that “crystal violet lactone is one of applicants’ preferable marking components in their specification, [so] it will inherently have the absorption properties claimed.”

However, this assertion is not correct. The only reference in the applicants’ specification to crystal violet lactone is at page 14, line 25, where it is described as a color-forming component that is an optional additive to a composition already including the claimed marking component (see also page 14, line 22 – “A colour-forming component may be included”). The color-forming component is different from the marking component discussed throughout the specification and included as an element in claim 22.

Crystal violet lactone is not a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm. Thus, Satake I fails to teach the claimed method, including applying onto a substrate an ink formulation that includes a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm.

As discussed above, it is a basic premise of patent law that in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scriptis, supra*. Satake I fails to disclose certain elements

of the claimed invention. For example, there is no teaching in Satake I of an ink formulation as claimed.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §102 based on Satake I.

Claims 22, 23, 26, and 30 have been rejected under 35 U.S.C. §102(b) as being anticipated by Külper *et al.* (U.S. Patent No. 5,626,966; hereinafter referred to as “Külper”). The applicants respectfully traverse this ground for rejection because the cited reference does not teach each and every element of the claimed invention.

Again, the claimed method requires the step of applying onto a substrate an ink formulation that includes a copper salt that absorbs laser irradiation at 700-2000 nm and a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm. The Action states that Külper discloses such a formulation based on the assertion that a “polyurethane acrylate based polymer... reads on applicants’ marking component” because it “will absorb in the mid-IR based upon the bond stretching/bending etc. frequencies.” The applicants submit that it is unclear how the bond stretching/bending properties of a compound could allegedly lead to the determination of absorbance properties. Nevertheless, polyurethane acrylate is not a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm. In fact, Külper fails to teach an ink formulation including any such marking component.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §102 based on Külper.

Claims 22-24, 26, 27, 29, and 31 have been rejected under 35 U.S.C. §102(b) as being anticipated by Delp *et al.* (EP 1279517I; hereinafter referred to as “Delp”). The applicants respectfully traverse this ground for rejection because the cited reference does not teach each and every element of the claimed invention.

The Action states that Delp discloses such an ink formulation as claimed based on the assertion that a “chromate-molybdate pigments... read on applicants’ marking component of oxymetal anions.” The applicants disagree because neither the chromate-molybdate pigment nor any other component disclosed by Delp is a marking component that can undergo a color-forming

reaction on irradiation at a wavelength above 2000 nm. Moreover, it is not even clear that Delp discloses a copper salt that absorbs laser irradiation at 700-2000 nm.

As discussed above, it is a basic premise of patent law that in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps, supra*. Delp fails to disclose certain elements of the claimed invention. For example, there is no teaching in Delp of a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §102 based on Delp.

Claims 22, 23, 26, 29, and 31-33 have been rejected under 35 U.S.C. §102(b) as being anticipated by Satake *et al.* (U.S. Patent No. 4,849,396; hereinafter referred to as “Satake II”). The applicants respectfully traverse this ground for rejection because the cited reference does not teach each and every element of the claimed invention.

The Action states that Satake II discloses an ink formulation as claimed based on the assertion that “crystal violet lactone is one of applicants’ preferable marking components in their specification, [so] it will inherently have the absorption properties claimed.” However, this assertion is not correct. As discussed above with respect to the rejection based on Satake I, the only reference in the applicants’ specification to crystal violet lactone is at page 14, line 25, where it is described as a color-forming component that is an optional additive to a composition already including the claimed marking component.

Crystal violet lactone is not a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm. Thus, Satake II fails to teach the claimed method, including applying onto a substrate an ink formulation that includes a marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm.

Again, it is a basic premise of patent law that in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps, supra*. Satake II fails to disclose certain elements of the claimed invention. For example, there is no teaching in Satake II of an ink formulation as claimed.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §102 based on Satake II.

Claims 32 and 33 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Delp in view of Khan. The applicants respectfully traverse this ground for rejection because the cited references, taken either alone or in combination, do not teach or suggest the claimed invention.

The deficiencies of Delp have been discussed above. Khan does not cure these deficiencies.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) based on Delp and Khan.

Claims 32 and 33 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Külper in view of Khan. The applicants respectfully traverse this ground for rejection because the cited references, taken either alone or in combination, do not teach or suggest the claimed invention.

The deficiencies of Külper have been discussed above. Khan does not cure these deficiencies.

Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) based on Külper and Khan.

Claim 25

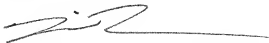
The applicants note that claim 28 as previously presented was not included in any prior art rejection. Though claim 28 has been canceled, the limitations previously presented therein are now in claim 25 (note that the limitations previously presented in claim 26 have been incorporated into claim 22). Thus, the applicants respectfully submit that claim 25 is allowable over the prior art as claim 28 was previously.

In view of the foregoing remarks and amendments, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants also invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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